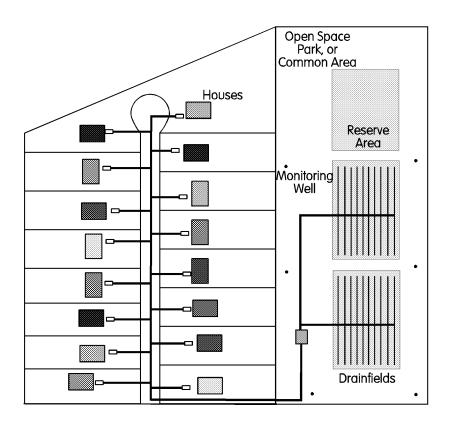
### **Community Septic Systems**



Idaho Department of Environmental Quality 1410 N. Hilton Boise, ID 83706

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Community Septic systems, also known as central septic systems, are septic systems that receive black waste or wastewater in volumes exceeding 2,500 gallons per day, or systems that receive black waste or wastewater from more than two homes or more than two buildings under separate ownership.

Many of the early community septic systems experienced obvious surface failures that resulted in contaminated ground water. With over 90 percent of Idaho's drinking water supply originating from ground water, and ground water also commonly discharging to surface waters, contamination of ground water from a community septic system can significantly impact Idaho's waters and cause illness. Idaho's water resources need to be protected from bacteriological and chemical contamination.

After learning from past mistakes and from reviewing others' experiences nationwide, Idaho added a section to its *Rules for Individual Subsurface Sewage Disposal* that specifically addresses large soil absorption systems. In 1993, this new section (Large Soil Absorption System Design and Construction) of the *Rules for Individual Subsurface Sewage Disposal* (IDAPA 58.01.03.013) was adopted. These new rules were added to address problems and issues specific to community septic systems and large soil absorption systems. The rules apply to all community septic systems designed to receive 2,500 gallons per day, including areas where the total wastewater flow from the entire proposed project exceeds 2,500 gallons per day, but where the flow is separated into absorption modules of less than 2,500 gallons per day.

Most rural subdivisions do not have access to public sewer collection systems or wastewater treatment plants; consequently the only mechanisms for wastewater treatment and disposal are individual or community septic systems. A community septic system consists of a septic tank and some type of treatment system. Drainfield or trench systems, capping fill, intermittent sand filter, and recirculating gravel filters are a few types of treatment systems for individual and community septic systems.

Subdivisions can be designed with a community septic tank where the wastewater generated by each residence is discharged into a sewer main and then into a community septic system. Subdivisions may also be designed to use septic tank effluent pump (STEP) systems. STEP systems have a septic tank at each residence and a sewage pump in the septic tank that delivers the effluent to a collection system. Subdivisions may also choose not to use community septic systems by designing for individual septic systems on each lot (decentralized septic systems). Because of the volume of wastewater to be treated and disposed, community septic systems must meet special requirements above those required for individual septic systems in order to avoid surface failures and contamination of ground water.

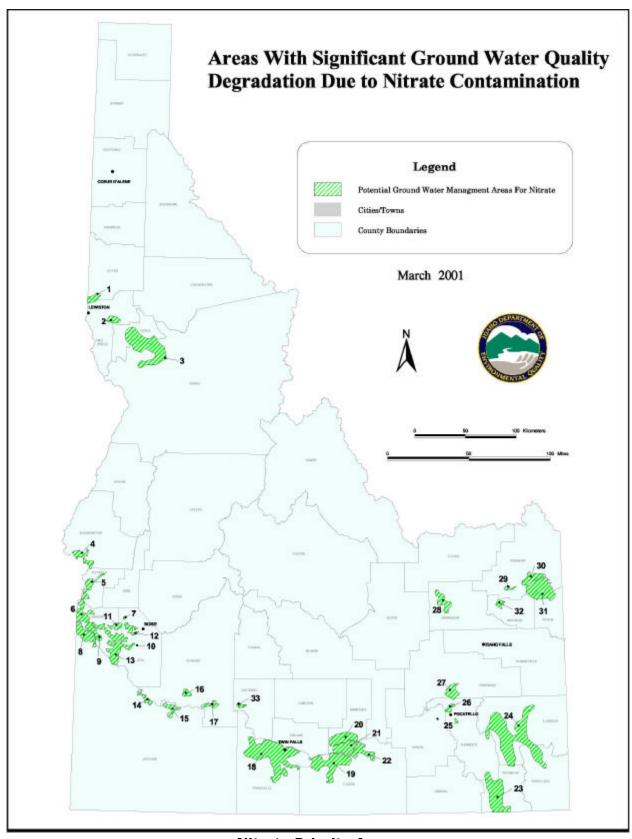
#### **Subdivision Planning**

Subdivision planning involves a multitude of factors, from noise control and garbage disposal, to drinking water supply and wastewater treatment and disposal.

The developer must receive a permit from the local Health District for the community septic system. All subdivision plat recordings must also be submitted to local Health District for approval. The Health District reviews the plat only after satisfactory information concerning the wastewater and drinking water systems, as well as many other criteria, have been met and the application fee paid. An Idaho Department of Environmental Quality water quality engineer will review community septic system proposed plans and specifications. After appropriate reviews are conducted and any necessary changes are made, the Health District may approve and sign the sanitary restriction release statement on the plat and issue the permit.

Community septic systems are used when soils in a proposed subdivision are unsuitable for all lots to have individual septic systems or when cluster style development is preferred. The subdivision planners and developers can arrange lots to provide adequate building locations and set aside a common area for a community septic system. The advantages of community septic systems include smaller lot sizes and the complete use of the land area; disadvantages include more stringent siting requirements and a need for an organization to take care of routine operation and maintenance. If the cluster development has an estimated wastewater flow of 2,500 gallons per day or more, then the sewage for the subdivision may be treated and disposed of using a large soil absorption system.

A nutrient pathogen study must be prepared for all large soil absorption systems and for community septic systems that are in nitrate priority areas (see map) or over sensitive resource aquifers (see Howarth, Burnell, and Wicherski for guidance). This study is designed to evaluate the proposed septic system's impact on ground and surface water. A community septic system with a nutrient-pathogen study that concludes an impact to ground or surface waters is likely to occur, will not be approved. The developer must revise the system design until the nutrient-pathogen study conclusions indicate no impact to ground or surface waters.



**Nitrate Priority Areas** 

### **Conditions of Approval**

In order for a subdivision's community septic system design to be approved, several conditions must be met.

- All applicable regulations for individual community septic systems must be met. (IDAPA 58.01.03)
- Soil and site investigations must conclude that the effluent will not adversely impact or harm ground or surface waters of the state. An environmental health specialist from your local District Health Department office will conduct the site investigation in coordination with a DEQ soil scientist or hydrogeologist. A nutrient-pathogen study is required for large soil absorption systems and for community septic systems in nitrate priority areas or over sensitive resource aquifers.
- Plans submitted for approval with the community septic system permit application must include provisions for inspections of the work at critical phases of construction.
- Developments with greater than 10,000 gallons per day flow must divide the system into absorption modules designed for 10,000 gallons per day or less.
- Any proposed subdivision must be able to comply with county or city planning and zoning ordinances, master plans, and or impact zones.
- Any conditional or special use permits must be obtained prior to community septic system approval.

#### Soil and Site Requirements

The following specific soil and siting requirements are provided for the landowner's and developer's information prior to starting a project. An initial site investigation by the landowner's agents should address these basic soil and siting requirements. Specific information on soil types can be found in the *Regulations for Individual Subsurface Sewage Disposal* and the *Technical Guidance Manual For Individual and Subsurface Sewage Disposal*. In general, "A" soils are fine to medium sands, "B" soils are very fine sands to silt loams, and "C" soils are silts and clay loams. Unsuitable soils have greater than 35 percent clay. Separation distance from the edge of the absorption module to the feature of concern must be equal to or greater than those values listed in the table below.

**Separation Distance Requirements (in Feet)** 

<b>Feature of Interest</b>	Design Soil Group		
	A	В	C
<b>Domestic Water Supplies</b>			
2,500-5,000 GPD <sup>1</sup> Sewage Flow	250	200	150
5,001-10,000 GPD Sewage Flow	300	250	200
Property Lines			
2,500-5,000 GPD Sewage Flow	50	50	50
5,001-10,000 GPD Sewage Flow	75	75	75
<b>Building Foundation Basement</b>			
2,500-5,000 GPD Sewage Flow	50	50	50
5,001-10,000 GPD Sewage Flow	75	75	75
Downslope Cut or Scarp Impermeable Layer	100	50	50
Below the Base			
Module Separation Distances	12	12	12

<sup>1</sup>gallons per day

Effective soil depth below the bottom of the drainfield to the site condition must be equal to or greater than those values listed in the table below.

**Effective Soil Depth Requirements (in Feet)** 

Site Condition	Des	Design Soil Group		
	A	В	C	
Impermeable Layer	8	8	8	
Fracture or Fissured Bedrock or Extremely	12	8	6	
Permeable Material				
Normal High Ground Water	12	8	6	
Seasonal High Ground Water	2	2	2	

#### **Miscellaneous Requirements**

- A minimum of two disposal systems is required to be installed; each sized to accept the daily design flow.
- A replacement area, equal to the size of one disposal system, shall be reserved in case a system should fail.
- The distribution network must be pressurized with a duplex pumping system to insure equal distribution of the septic tank effluent throughout the application area.
- A geotextile filter fabric must cover the aggregate as a barrier to prevent soil from entering the aggregate.
- Large septic tanks shall be constructed according to the *Technical Guidance Manual For Individual and Subsurface Sewage Disposal* and IDAPA 58.01.03.007 and 58.01.03.013.05. of the *Rules for Individual Subsurface Sewage Disposal*.
- Observation pipes shall be installed to the bottom of the drainrock throughout the treatment and disposal system.
- Monitoring wells shall be installed and annual ground water monitoring conducted as outlined in the community septic system permit.
- A large soil absorption system monitoring report shall be submitted to the District Health Department by January 31 of each year.
- Operation and maintenance plans shall be approved and must contain the following minimum criteria:
  - ❖ A rotation schedule for the disposal systems (must be at least annual)
  - ❖ Detailed descriptions and locations of all elements of the community septic system
  - ❖ An outline of the appropriate maintenance procedures
  - ❖ Detailed timetables for operating and maintaining the system
- The permit application must specify an entity to operate and maintain the system, such as a homeowners association, sewer district, municipality, or nonprofit corporation for managing small or subsurface wastewater flow systems.

#### **References**

The *Technical Guidance Manual For Individual and Subsurface Sewage Disposal* can be viewed at <a href="http://www2.state.id.us/deq/waste/tgm\_sewage.htm">http://www2.state.id.us/deq/waste/tgm\_sewage.htm</a>

IDAPA 58.01.03, *Rules for Individual Subsurface Sewage Disposal*, can be viewed at <a href="http://www2.state.id.us/adm/adminrules/rules/idapa58/0103.pdf">http://www2.state.id.us/adm/adminrules/rules/idapa58/0103.pdf</a>

Howarth, R.H., B. Burnell, and B. Wicherski, June 22, 2001. *Nutrient-Pathogen Evaluation Program for On-Site Wastewater Treatment Systems*, Idaho Department of Environmental Quality, 26 pages.

# For More Information Idaho Department of Environmental Quality

Idaho Department of Environmental Quality State Office 1410 North Hilton Boise, ID 83706 208-373-0502 www2.state.id.us/deq

Boise Regional Office 1445 N. Orchard Boise, ID 83706-2239 208-373-0550

Coeur D' Alene Regional Office 2001 Iron Parkway Coeur D' Alene, ID 83814 208-769-1422

Idaho Falls Regional Office 900 N. Skyline, Suite B Idaho Falls, ID 83402 208-528-2650

Lewiston Regional Office 1118 "F" Street Lewiston, ID 83501 208-799-4370

Pocatello Regional Office 224 South Arthur Pocatello, ID 83204 208-236-6160

Twin Falls Regional Office 601 Pole Line Road, Suite 2 Twin Falls, ID 83301 208-736-2190

## For More Information Idaho District Health Departments

Panhandle District Health Department 1295 Ironwood Court Coeur d'Alene, ID 83616 208-667-9513 www.state.id.us/phd1

North Central District Health Department 215 10<sup>th</sup> Street Lewiston, ID 83501 208-799-0353 <u>www.state.id.us/phd2</u>

Southwest District Health Department 920 Main Street Caldwell, ID 83605 208-455-5400

Central District Health Department 707 N. Armstrong Place Boise, ID 83704 208-327-7499 www.phd4.state.id.us

South Central District Health Department 1020 Washington Street North Twin Falls, ID 83301-3156 208-734-5900 www.state.id.us/phd5

Southeastern District Health Department 1901 Alvin Ricken Dr. Pocatello, ID 83201 208-239-5270 www.state.id.us/phd6

District 7 Health Department 254 E Street Idaho Falls, ID 83402-3597 208-523-5382 www.state.id.us/phd7



DEQ-6, SSDS, 82014, 2/02, Cost Per Unit: \$0.95